MEETING MINUTES

HANFORD ADVISORY BOARD (HAB, Board)
River and Plateau Committee (RAP)
November 16, 2021
Virtual Meeting via Microsoft Teams

Topics in this Meeting Summary

This is only a summary of issues and actions discussed at this meeting. It may not represent the fullness of represented ideas or opinions, and it should not be used as a substitute for actual public involvement or public comment on any particular topic unless specifically identified as such.

Opening

Ruth Nicholson, HAB Facilitator, welcomed meeting participants and notified the participants that the meeting was being recorded.

Stan Branch, US Department of Energy (DOE), announced that this meeting was being held in accordance with the Federal Advisory Committee Act.

For the benefit of new HAB members in attendance, Tom Sicilia, Oregon Department of Energy and RAP Chair, introduced the committee. He explained that DOE provided the committee with information and updates on priority topics within the RAP scope. He explained that RAP hoped to developed policy-level, actionable advice, but first needed to become informed about the status of Hanford Site activities. He welcomed the members in attendance, both established and new.

Ruth provided an overview of the day's meeting agenda. She explained the typical structure of HAB committee meetings. Bob Thompson, City of Richland, and Denise Jones, Citizens for a Clean Eastern Washington, introduced themselves at the request of Steve Weigman, Public at Large and HAB Chair.

Ruth asked if there was any committee feedback to provide on the draft meeting minutes for the RAP August 10, 2021 meeting. Tom Sicilia asked that a link to the meeting recording be added to the minutes. The committee moved to approve the document with no further comment.

Tom Galioto, Tri-City Development Council (TRIDEC), announced that the Budgets and Contracts Committee coordinated an Issue Manager (IM) team effort to summarize comments on the DOE 5-Year Plan public meeting. It was a formal letter, but not a HAB product as there would be no time to get HAB consensus prior to the comment submission due date. Following statements that the letter should be distributed to HAB members, Ruth noted that the document would trigger the HAB correspondence process and would be referenced in the HAB weekly update email, should HAB members wish to review the content. Chris Sutton, Public at Large, commented that the elements of the letter might be useful in development of a HAB product in the future.

Annual Groundwater Update

Tom Sicilia introduced the topic and noted that the day's meeting was intended to be groundwater focused. He stated that he looked forward to hearing DOE present on the water Treatment facility system.

Naomi Jaschke, DOE, introduced herself as the presenter. She noted that she had been working at Hanford for over 14 years, with most of her time spent in the Soil and Groundwater Division. She defined the Central Plateau as the location of the 200 East and 200 West Areas where much of the Hanford Site's groundwater treatment infrastructure was located.

She began the presentation with a safety message focused on the use of operational experience. She stated that the message was based on an entry in the DOE Safety Culture Handbook. She stated that operating experience is highly valued and the capacity to learn from experience is

well developed. She stated that, by applying lessons learned, the effectiveness of future project teams would be improved.

Naomi then explained the primary purpose of the briefing, which was to relay highlights from Hanford groundwater activities in 2021, including treatment accomplishments and decision document approval. She highlighted that 2.2 tons of contaminants were treated from over 2.4 billion gallons of groundwater in 2021, the seventh year in a row where at least 2.2 billion gallons of groundwater was treated across Hanford's six operating pump and treat facilities.

She stated that three decision documents were approved for the 100-BC, 100-K, and 200-BP-5/200-PO-1 areas. Each of the Tri-Party Agreement (TPA) agencies would ultimately sign the decision documents as part of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process. Naomi provided background of the 100-BC decision document, the Record of Decision (ROD). The ROD was one of the final decision documents needed for the six Columbia River corridor sites with only two remaining. The ROD addressed all operable units within the 100-BC Area. The selected remedy within the ROD was consistent with established remediation activities and decisions for the area.

The 100-K decision document was an Explanation of Significant Difference (ESD), which addressed changes from the interim ROD from 1996. It added soil flushing at the 183.1-K East Headhouse area as an enhancement to existing pump and treat activities and updated overall costs. The decision documents for 200-BP-5/200-PO-1 were interim RODs, which would establish plume expansion mitigation means until final decisions were in place. This decision would target high-mobility contaminants that exceeded the drinking water standard and would affect drinking water. Characterization of waste sites and the associated vadose zone would be addressed in separate decisions or actions as DOE progressed toward the final remedy.

In conclusion, Naomi stated that great strides were made in development and implementation of remedy decisions across the Hanford Sites, process improvements were effective in accelerating progress in removal of groundwater contaminants, and soil flushing that has proven effective at the 100-K Area.

Regulatory Perspectives

Craig Cameron, US Environmental Protection Agency (EPA), stated that Naomi did well in her presentation and provided a lot of detail. He stated that he would be there to answer any questions from a regulatory perspective that might come up.

Nina Menard, Washington State Department of Ecology (Ecology), stated that, regarding groundwater, DOE and EPA were doing a good job in addressing issues. She offered to answer any questions that the committee might have.

Committee Questions

Liz Mattson, Hanford Challenge, requested an explanation on the basics of pump and treat, which Naomi provided. Afterward, Liz asked that Naomi provide additional details on soil flushing, as that might sound scary for new members. Naomi explained that prior to soil flushing,

the pump and treat system was analyzed to ensure that it would be able to handle the additional volume of contaminated water. As part of the soil flushing process, extraction wells were placed at the "heart" of the contamination, and water is flushed through the soil to push contamination to those extraction wells. Liz noted that she would be available to answer any other questions that new HAB members might have going forward, even if they were basic questions.

Tom Galioto asked a clarifying question about soil flushing. He asked if the water being used for the process was additional water, not initially part of the groundwater in the area, and if so, did that additional water resulting in expansion of the contamination plume boundary. Ellwood Glossbrenner, DOE, explained that the water used in the process was not new and consisted of effluent water from the pump and treat system that was applied above a suspected source area. Injection wells were installed upgradient, while additional extraction wells were set up downgradient for capture. Tom Galioto was also interested in how accurate the plume boundaries were, referencing a map in Naomi's presentation slides. Nina explained that the boundaries were determined by modelling utilizing the data from approximately 3,000 monitoring wells.

Esteban Ortiz, Green Latinos, asked if the three TPA agencies involved in the decision document signing were all working together to clean up the river. Additionally, he asked if the technology being used was new and if implementation of it was going well. Naomi stated that the three TPA agencies collaborate in the goal of protecting the river and that all technologies in use were proven, with each having been used in other areas and having undergone extensive treatability tests, paper research, and other methods of proving viability. DOE worked with regulators hand-in-hand to ensure the best options were implemented.

Naomi noted that she had put together a "Groundwater 101" presentation that might be valuable to new members. She offered to provide the presentation in the springtime.

Chris Sutton, Public at Large, asked what DOE's greatest concerns were to be addressed in order to move forward or accelerate timelines. Naomi explained that future characterization of sites was a hurdle to overcome in working toward an integrated, final remedy for the site. She noted that soil flushing had proven effective for time and cost savings and was expected to cut years off the remedy.

Jan Catrell, Washington League of Women Voters, noted that there was a lot of discussion related to potential infrastructure improvements. She wondered if Hanford was expecting any potential funding from a new federal infrastructure bill, and if so, what projects might be "shovel ready" for unexpected funding. Naomi stated that she had not heard of any additional funding being directed to Hanford. She noted that there were higher level discussions held about what was shovel ready, but those details were not known at her level. Nina added that Ecology requested additional funding from the Washington State representatives, though expected that most of it was requested in relation to tank waste storage and treatment projects.

Regarding an earlier question, Nina stated that what Ecology felt was important in addressing was protection of groundwater. She explained that remediation of the overburden of pollutants near the surface and in the vadose zone was important as, in her opinion, it was cheaper to address contaminants near the surface than it was to treat them in the groundwater.

Vince Panesko, City of Richland, noted that the groundwater report showed multiple plumes of radionuclides under the 200 Areas that exceeded the drinking water standard. He asked what the pump and treat plans were to remediate those plumes in particular, rather than addressing technetium-99 and uranium. Further, he wanted to know what actions would be taken in preventing an iodine-129 plume from reaching the Columbia River and contaminating the drinking water for the City of Richland. He noted that the iodine plume appeared that it could reach the river in one to two years, had an extensive half-life, and that even trace levels reaching the drinking water would result in concentrations in the thyroid for residents.

In response, Naomi introduced a Hanford Site plume tool, available at: https://higrv.hanford.gov/Hanford_Reports_2019/Hanford_GW_Report/.

Naomi explained that, using the plume tool, the iodine plume was shown to stay put and was shrinking over time. DOE was monitoring and evaluating the plume. If any part of that was reaching the river, it was below detection limits. Nina noted that the iodine plume was problematic because there was no good technology for extracting or treating it. Craig confirmed Nina's statement. He stated, however, that just because a plume was large that it was not necessarily highly concentrated.

Vince stated that it was his understanding that the plume was above the drinking water standard, which Naomi confirmed. He noted that the presentation focused on certain contaminant plumes. He wanted to know if there was a document that discussed DOE's plan to remove other contaminants. Craig stated that there were RODs in 200W that were addressing the plumes. There were actions in progress in 200W, though in 200E the plans were not finalized as the sources were not yet fully characterized. Ongoing monitoring efforts would show how well plumes were addressed as a result of the interim actions. Further, he explained that the reason folks were focused on specific plumes was due to activity; once they reached Gable Gap, they started to change direction. They wanted to ensure that the mobility and change in direction did not result in contamination of additional areas. Nina pointed out that the 200 Area ROD focused on those plumes, but as water went through pump and treat operations, more than just the primary two contaminants of concern were removed. Naomi contributed, stating that effluent water needed to meet standards for cleanliness; contaminated water was not pumped back into the ground.

Tom Sicilia stated that there was a question of a potential fact sheet showing how various parts of the groundwater treatment system fit together and hoped that Naomi's Groundwater 101 presentation might cover that. He noted discussion of optimization of treatment options for the Central Plateau and stated that Cumulative Impacts Evaluation (CIE) documentation was being released, which was a tool that would be useful in determining the best "bang for buck" options. He noted that he had been providing links to the documents in the RAP's Microsoft Teams channel. He stated that they were highly technical documents, but pertinent. Some documents he hoped to share included:

- Inventory Data Package for the Hanford Site Cumulative Impact Evaluation: https://pdw.hanford.gov/document/AR-17407

- Model Package Report: Central Plateau Vadose Zone Models: https://pdw.hanford.gov/document/AR-17402
- Hanford Site Disposition Baseline for the Cumulative Impact Evaluation - No Further Action Scenario: https://pdw.hanford.gov/document/AR-17409

Rob Davis, City of Pasco, noted that back in 2007, with HAB Advice #197, the HAB defined its values in regard to groundwater. He encouraged new or unfamiliar members to take a look at the advice, noting it contained a table with a flowchart identifying the need for new technology. He was pleased that the TPA agencies were proceeding with those technologies.

The flowchart can be found here: https://www.hanford.gov/files.cfm/HABAdv_197_attchmnt.pdf.

Liz noted that some contaminants could be removed using the pump and treat facility resins, while there were others that could be not, which resulted in detected contaminants being reinjected into the ground. She asked for more detail in that regard, as she found it confusing when she was initially learning about the subject.

Kate Amrhein, DOE, explained that there were two different resins used at the 200 W pump and treat specifically for removal of uranium and technetium-99 from water, though they extract other contaminants of concern as well though the ion exchange process. As they are getting full, there is a preference for the primary contaminants, while others are not picked up as often. The way the pump and treat operations are set up, there are multiple feed streams. When all the water sources are combined, the contaminants from each stream are combined and diluted. That is why, when water is reinjected, contaminants below the drinking water standard limits may appear. The way these wells are set up, however, this water is hydraulically contained. There are some contaminants that are not targeted that continue to circulate through the pump and treat operations that will naturally attenuate due to their short half-life, and there are organic compounds that will be captured by other systems, such as air strippers. She explained that DOE continued to evaluate potential technologies or methods to optimize the operations. Nina noted that, in regard to detection and treatment of contaminants, that just because a contaminant was detected did not necessarily mean that it was unsafe. Drinking water standards were used to determine safety.

In closing, Tom Sicilia stated that he appreciated the conversation and presentation. He felt that the topic was a strong representation of what the RAP does. He looked forward to the Groundwater 101 presentation.

Liquid Effluent Retention Facility (LERF) and Effluent Treatment Facility (ETF)

Bibek Tamang, DOE, introduced himself and the topic. He led his presentation with a safety message regarding leadership. He read: “The organization maintains a highly knowledgeable workforce to support a broad spectrum of operational and technical decisions. Technical and safety expertise is embedded in the organization. Outside expertise is employed when necessary.”

Bibek explained that the objective of the briefing was to explain the purpose of upgrades at LERF and ETF. He provided an overview of the Direct-Feed Low-Activity Waste program. He explained that the program consisted of integration of multiple projects, facilities, and organizations across the Hanford Site to treat and immobilize low-activity waste (LAW).

He provided the location of LERF and ETF in relation to other key facilities and explained that the two facilities would store and subsequently treat secondary liquid waste from DFLAW operations and would be the last stop before treated effluent was discharged to the environment. LERF was intended to store liquid waste, while ETF would treat the waste.

Upgrades to the facilities were performed for the purposes of expanded capability, increased capacity, and enhanced reliability. Some of the upgrades performed to treatment systems included ultraviolet and oxidation units for treating organic compounds, upgraded hydrogen peroxide destruction modules, reverse osmosis systems, and loadout systems. Additionally, supporting infrastructure was upgraded, which included HVAC chiller units, a compressed air system,, and a cooling water system. Bibek noted that there were additional projects planned to further enhance treatment capability, provide facility life extension, and support ongoing operational reliability.

In conclusion, Bibek reiterated that LERF and ETF were the final step in DFLAW program operations, and to effectively performed their mission of liquid waste receipt and processing, the facilities required operational upgrades. As a result, those two facilities were presently a DOE mission priority.

Regulatory Perspective

Craig Cameron stated that his office did not do much involving tank farm missions, so he had little to say on the matter.

Amena Mayenna, Ecology, reiterated that there were a lot of ongoing construction projects to support DFLAW. Ecology was working to support DOE in necessary permit modifications that were necessary to start the project. Currently, there was a 60-day Class 2 permit modification comment period, and many other permits in development.

Committee Questions

Tom Sicilia thanked Bibek for the presentation. Regarding a chart in the presentation slide deck, he noted that in the near-term, there was a large spike of miscellaneous liquids expected and asked what process those were related to. He also asked who set the discharge limits for output water. Finally, he asked if there was anything the TPA agencies might want the HAB to provide advice or comment on in regard to the LERF or ETF projects.

Regarding the chart, Bibek stated that it was taken from System Plan 9 and was based on modelling. He was unsure of what the miscellaneous liquids consisted of and would have to look into it. Edward Holbrook, Ecology, stated that Ecology would set the discharge limits based on the associated permits. He stated that Ecology would be happy to hear from the HAB during any

public comments periods. Bibek stated that the presentation was just intended to provide information, but advice or comments to DOE were always welcome.

Vince Panesko stated that the presentation was excellent, and the upgrades were welcome. He expected that the new equipment could be in service for years. He identified a challenging situation, nothing that these facilities would serve as a "garbage dump" for waste sources across the site. In the waste analysis plan attached to the permit, many of the streams were not analyzed and were instead predicted based on process knowledge, which, he stated, raised the question of what was allowable. He asked what the regulators may have seen that might be a cause for concern, knowing that sometimes processes work and sometimes they do not. Additionally, he noted that a lot of organics would be transferred into the waste stream, as tank waste would go through the evaporator, and each tank had a different set of organics. With unknown organics entering the system, he wondered how discharge requirements would be met.

Edward took on the question of LERF and ETF oversight. He stated that the facilities had a Resource Conservation and Recovery Act (RCRA) permit that required DOE and its contractors to ensure waste acceptance criteria (WAC) were followed. Ecology would conduct annual inspections of LERF and ETF to ensure compliance with WAC. Besides the RCRA permit, Ecology also had in place a wastewater discharge permit for wastewater prior to discharge. He felt that it was unlikely that anything would be discharged the did not meet the set limitations. Vince felt that an annual check would not be enough to catch everything, due to the tremendous variation in chemicals at Hanford.

Craig contributed, stating that powders resulting from treatment would either go somewhere for treatment prior to disposal, or if they already met disposal criteria, they would go straight to the Environmental Restoration Disposal Facility (ERDF). WAC would not be exceeded for anything going into ERDF. The content was analyzed, and he was confident that, even if there was variability in the sources, the content of the powders was well known.

Chris Sutton noted that, among the upgrades, there were units designed to destroy organics, including supplemental organics treatment. He asked what classes of organics that those were designed to destroy. Bibek stated that the three primary chemicals to be treated were carbon dioxide, hydrogen peroxide, and acetonitrile. Chris noted that, for those interested, the sampling and analysis plans for RCRA groundwater units showed that there was a wide variety of analyses performed to characterize organics entering the groundwater, so the organic content entering LERF and ETF was likely well known.

Rob Davis stated that it was his understanding that the LERF and ETF facilities were not part of the original plan, and instead the Waste Treatment Plant (WTP) was intended to be self-contained. He thought that a big reason that melters were being used was because they would destroy organics; at 11,000ºF few organics could survive, and excess water would effectively be organic-free. He asked why this clean output water would be mixed with organics-contaminated water from elsewhere. Edward stated that he did not believe that clean water was being sent from WTF to LERF and expected that it would still have some contaminants that require removal.

Ricky Bang, DOE, stated that the tank farms would receive secondary waste from other generators, which might be a potential topic for future briefings.

Steve Wiegman stated that he was consistently impressed with the water treatment system installed at Hanford. He applauded the personnel involved in designing those. He noted that it seemed that the program was relying on System Plan 9 to understand what LERF and ETF would receive from WTP. He stated that it was his understanding that it was based on modelling and asked if the facilities were robust enough to handle potential variability. Bibek stated that the projections were taken from System Plan 9, which was based on computer simulation, and refined over the course of nine revisions and could potentially change again in the future. Ricky added that System Plan 9 gave DOE the results needed to determine the needed processing capacity for LERF and ETF on a per-year basis, but there were other models for the WTP projects that described the constituents that would be sent form WTP. They worked with tank farms and WTP to determine the equipment and processes needed to handle secondary waste treatment; it was a very integrated process. Regarding the flexibility question, Rick stated that there were nominal targets for concentrations and volumes of wastewater that the facilities were designed to, but there were operational margins that allowed flexibility at all points of the system.

Liz Mattson asked for specifics in the decontamination flushing process for the LERF basins and where the water used for decontamination would be routed afterwards. Richard Valle, DOE, stated that that question would be better posed during the public comment period on November 30, 2021. Liz asked if the broader question of what was done with treated liquid from ETF could be answered. Richard stated that, from a big picture perspective, that following treatment, the water would be sampled for delisting and subsequently discharged to the ground per a Washington State discharge permit. Secondary waste would be concentrated down to a powder form for disposal in ERDF. Craig contributed, stating that should waste need additional treatment to meet land disposal restrictions, it could be.

Vince believed that the waste analysis plan stated that those powders would not be sent to ERDF and would instead be sent to an approved disposal site north of 200W. Richard stated that was the location for disposal of treated liquid effluent and was chosen due to its geography. Liz noted that she had not heard of this state approved disposal site and wondered of that was new information. Edward stated that the permit was long-standing and that there was clean water discharge already occurring. Richard explained that the site consisted of a pipeline that terminated at a gravel drainage field. He stated that a map of the location could be provided in the future.

Tom Sicilia thanked the presenters and regulators for the conversation.

Central Plateau Water Treatment Facility

Diane Cato, Hanford Mission Integration Solutions (HMIS), introduced herself and thanked the committee for the opportunity to speak. She stated that a lot of progress was made over the last year that she hoped to show by example.

She started her presentation with a safety message about food safety, in theme with the approaching Thanksgiving holiday.

The presentation was intended to provide information about the new Central Plateau water treatment facility, its purpose, and how it would support the DFLAW program. She noted that the existing water treatment facility was over 75 years old with a production limit of 2.16 million gallons per day, using gaseous chlorine for treatment. The new facility would have a much higher production capacity at 3.5 million gallons per day, with expansion capacity of up to 5 million gallons per day. The facility was important infrastructure to support 24/7 operations of DFLAW and would provide treated water to the Central Plateau area. It would utilize hollow fiber microfiltration membranes for water treatment, a process that would allow water molecules to pass through the filtration media but leave bacteria and other contaminants behind. Additionally, it would utilize sodium hypochlorite to remove safety concerns associated with bulk gaseous chlorine. The facility underwent its groundbreaking ceremony the month prior and was expected to be compete in May of 2023.

Regulatory Perspective

Ginger Wireman, Ecology, stated that Ecology was glad to hear they were moving forward with the facility and eliminating the need to use chlorine.

Committee Questions

Dan Solitz, Oregon Hanford Cleanup Board, asked about the remote-control capabilities of the plant, wondering if it was hard-wired or interconnected, citing cybersecurity concerns. Diane believed it to be hard wired. She noted that cybersecurity subject matter experts were interfacing with water treatment facility team to ensure that cybersecurity requirements were met.

Tom Sicilia asked for status of certain pump stations and feed lines, though Diane was unsure of the specifics. She noted that there were multiple projects ongoing in relation to water systems. Jeffrey Sedgewick, DOE, provided some additional information regarding the status of pump stations, noting that two reliability projects were ongoing for 100-B and 100-D pump stations to provide reliability in water export and treatment.

Tom Sicilia asked about the construction schedule, wondering if was cost-limited or could potentially be completed faster with increased funding. Diane did not believe that the project would benefit from an influx of funding, as the schedule assumed that the project would have the funding necessary to build the facility.

Steve Wiegman stated that he was glad to see the old facility replaced, noting that the treatment facility was critical infrastructure. He asked where the project was in relation to the DFLAW critical path schedule. Diane stated that the water treatment facility was not on the critical path for DFLAW startup and was instead being constructed with the intention to provide a more reliable system and minimize downtime.

Vince noted that he recalled reading something about the anticipated volume of water to be treated in the range of 400 million gallons per year, amounting to two million gallons a day,

short of the stated capacity for the new facility. In considering those numbers, he noted that the volume of water needed a final location for closure purposes. Bob Thompson, City of Richland, stated that, in regard to water going out of the plant, the location should be well known due to monitoring wells. Steve stated that, historically, a lot of water was discharged on site and did not believe that there were any unpermitted discharges occurring on site in the present day. He expected that it would have potential use in waste processing. Bob understood the concern of where water might be going but felt that it was a concern well within the ability of the TPA agencies to control and did not feel the need to press the issue. Pam Larsen, Benton County, concurred.

Tom Sicilia thanked the presenters for their efforts. He stated that it was always great to see reliability going up and liability going down.

Open Forum

Tom Sicilia explained the purpose of open forum, noting that committee meeting typically allowed an hour of time to discuss topics of interest or concern among its membership. He started, inviting committee members to take a look at the RAP Microsoft Teams page, where he regularly posted documents of interest from the Administrative Record.

Vince noted that Tom Sicilia previously mentioned documents related to the CIE and asked if he could summarize those. Tom Sicilia described the CIE as the "model of models," explaining that it incorporated all the models into a cohesive "quilt." It allowed DOE to run different scenarios to analyze various impacts from a variety of cleanup activities. The model package reported on things like the no action scenario and others. He thought that more information on the CIE or its results might be something to consider during committee business. Vince did not want to get into too much technical detail of the modelling but wanted to ensure there was no potential for raising policy issues.

Rob Davis wanted to consider having DOE tell the Board how much and what specifically had leaked out of tanks such as B-109 to understand what the hazard caused by the leak might be. He noted that was the only bad news that had occurred recently in regard to groundwater. Tom Sicilia noted that would be a crossover topic with the Tank Waste Committee (TWC) and was something to consider for a joint meeting.

Jan Catrell noted that she first heard of Gable Pond a few years prior and hoped that someone could remind her of what it was. Tom Sicilia explained that Gable Pond was an infiltration basin used during operations. Liquid was discharged to surface, resulting in creation of a pond near Gable Gap. He noted that the plume being discussed during the earlier groundwater update presentation was a stagnant plume in Gable Gap, which was a separate concern.

Steve Wiegman noted that the TWC would be discussing advice related to single-shell tanks (SST) in the follow day's meeting, which was prompted by the B-109 tank leak. He urged anyone interested in the topic to attend. He noted that it could lead to a potential Committee of the Whole (COTW) topic. Pam Larsen stated that she did not feel the advice was a reflection of reality and that it essentially requested unlimited funding. She intended to propose edits. Though she felt the points were valid, she also felt that they were naïve.

Relating to previous discussion of technetium-99, Vince clarified that technetium present at Hanford had a half-life of 211,000 years, while the technetium used in the medical field had a half-life of six hours.

Bob Suyama, Benton County, provided additional information related to the following day's TWC meeting. He explained that the draft advice was based on comments received at the previous Board meeting. The advice was not intended to focus on B-109, but instead it would look at the SST program at a higher level and consider preparations for potential tank leaks in the future. He expected that many other tanks would leak, as they were already 40 years past their design lifetime. He encouraged all HAB members, including new members, to join the meeting and noted that there were a couple of hours available to get the HAB's ideas incorporated into it.

Dan Solitz considered the possibility of using the groundwater treatment system to test how fast pollution was moving through the vadose zone. He wondered if it was possible and if anyone was willing to look into that. Tom Sicilia noted that it sounded like he was describing a tracer test and explained the limitations of such a method. Steve noted that the idea reminded him that there used to be lysimeter tests performed on site and wondered if that was still a technical investigation method in use. Vince noted that Battelle put out a report on the results of such testing a few years prior.

Vince recalled something of note related to the Gable Pond. He stated that there were four major ponds, each designed for non-radioactive water. However, as a result of accidents, each of the ponds became contaminated. He felt that revealed a fundamental issue with process upsets and hoped that the lessons learned from the accidents would be applied to the LERF and ETF projects. Steve noted that when the Hanford Site was interim stabilized, as he recalled, the ponds were dried out and covered, but never excavated.

Liz Mattson proposed the idea of presenting short introductions before starting agenda topics for the benefit of new HAB members. She felt that some of the basic concepts needed to be explained very clearly before starting, as it was easy to get lost in the "alphabet soup." She was unsure of how to formalize such a practice, though. Jan thought it was a good idea to explore and suggested that it could be part of the formalization of framing questions, which were developed for the benefit of the presenter. She considered that introductory concepts could be summarized by either committee members or the presenter.

Tom Sicilia considered the possibility of providing a per-topic "cheat sheet" provided as part of the meeting materials. Ruth Nicholson asked who might produce the cheat sheets, and Tom Sicilia suggested that the responsibility could be assigned by committee leadership during the "Gang of Six" calls when the agendas were formalized. Ruth explained that a Gang of Six call consisted of the committee chair, vice chair, three representatives from the TPA agencies, and someone from the HAB Facilitation Team. Steve noted he once encountered a placement at a restaurant in Idaho that contained acronyms and facts related to the state. He found it so useful that he took it with him as he travelled the state. He wondered if something similar could be developed for the HAB,

Gary Younger, DOE, noted that an upcoming Public Involvement and Communications Committee meeting would likely discuss new member orientation and part of that discussion would involve how to best involve new people in the HAB. He felt that getting discourse down to an understandable or elementary level would be beneficial going forward.

Rob considered the value in understanding Hanford Site emergency response procedures, such as who was in charge and where information came, among other related topics. He thought it would be valuable to consider what might be done in an emergency scenario, as a lot of what was dealt with on site was dangerous. Pam followed up, considering the question of how current information might be obtained if there was an emergency. She noted that during previous events, information was being posted to the internet very quickly, but one likely would not know where to look for it without being an insider.

Committee Business

Tom Sicilia explained that the goal of this topic was to determine potential topics for the RAP February 2022 RAP meeting. He suggested adhering to a theme of a site-wide update on removal and remedial actions underway or being planned. After confirming what topics might be ready for presentation in February, he considered pursuing specific topics that included Plutonium Finishing Plant (PFP) and Plutonium Reclamation Facility (PRF) rubble removal and the CERCLA 5-Year Review. Additionally, it was noted that committee leadership elections would need to occur.

Tom Sicilia and Liz Matson joined the Issue Manager team to come up with a presentation to that covered the "big picture" of the RAP committee and what types of things the RAP talked about. It could potentially include were the HAB's values and a past advice summary.

For those interested in running for committee leadership, Tom Sicilia asked what steps a member should take. Ruth Nicholson stated that interested members should email the facilitation staff. Tom Sicilia explained that the job consisted of taking the time to organize and coordinate calls, which could be time consuming, but felt that it was rewarding to see the conversations and information sharing that resulted.

Meeting Recording

https://youtu.be/A9Rmflwbsso

Attachments

Attachment 1: Deputy Designated Federal Officer Slide

Attachment 2: Meeting Agenda

Attachment 3: Draft Meeting Minutes for RAP August 10, 2021 Meeting

Attachment 4: DOE Presentation – Annual Groundwater Update

Attachment 5: DOE Presentation – Liquid Effluent Retention Facility (LERF) and Effluent Treatment Facility (ETF)

Attachment 6: HMIS Presentation – Central Plateau Water Treatment Facility

Attendees

Board Members and Alternates:

Bob Suyama, Primary	Bob Thompson, Primary	Dan Solitz, Primary
Denise Jones, Primary	Esteban Ortiz, Primary	Jan Catrell, Primary
Laurene Contreras, Primary	Rob Davis, Primary	Shelley Cimon, Primary
Steve Anderson, Primary	Steve Wiegman, Primary	Tom Galioto, Primary
Chris Sutton, Alternate	Leslie Koenig, Alternate	Liz Mattson, Alternate
Marissa Merker, Alternate	Mason Murphy, Alternate	Pam Larsen, Alternate
Tom Sicilia, Alternate	Vince Panesko, Alternate	

Others:

Becky Blackwell, DOE	Amena Mayenna, Ecology	Dieter Bohrmann, CPCCo
Bibek Tamang, DOE	Edward Holbrook, Ecology	Cerise Peck, HMIS
Cameron Hardy, DOE	Craig Cameron, EPA	Coleen Drinkard, HMIS
Ellwood Glossbrenner, DOE	Ginger Wireman, Ecology	Diane Cato, HMIS
Gary Younger, DOE	Nina Menard, Ecology	Patrick Conrad, HMIS
James Greene, DOE	Ryan Miller, Ecology	Gene Roosendaal, WRPS
Jeffrey Sedgwick, DOE	John Martell, DOH	Brandon McFerran, WRPS
Joan Lucas, DOE	Tom Rogers, DOH	Miya Burke, Hanford Challenge
Kaycee Bailey, DOE		Debbie Kelley
Naomi Jaschke, DOE		Kate Amrhein
Richard Valle, DOE		KB
Ricky Bang, DOE		Joshua Patnaude, HAB Facilitation
Stan Branch, DOE		Olivia Wilcox, HAB Facilitation
		Ruth Nicholson, HAB Facilitation

Note: Participants for this virtual meeting were asked to sign in with their name and affiliation in the chat box of Microsoft Teams. Not all attendees shared this information. The attendance list reflects what information was collected at the meeting.